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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,959	10/10/2001	Jeong-Sang Lee	Q64308	6256

7590 07/12/2005

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EXAMINER

LY, ANH VU H

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/972,959	LEE, JEONG-SANG	
	Examiner	Art Unit	
	Anh-Vu H. Ly	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-24 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Ex Parte Quayle

This application is in condition for allowance except for the following formal matters:

Drawings

1. Figures 1A and 1B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-3, 6, 8, 13, 18, 20, and 24 are objected to because of the following informalities:

With respect to claim 1, in lines 13 and 16, "the result" lacks antecedent basis.

With respect to claim 2, in line 3, "the result" lacks antecedent basis.

With respect to claim 3, in line 7, "the bit compensating unit" lacks antecedent basis.

With respect to claims 6 and 18, in line 3, it is unclear whether θ represents a zero or an indefinite value.

With respect to claim 8, in line 22, "the coefficient calculation unit" and in line 24, "the result" lack antecedent basis.

With respect to claim 13, in line 6, “the result”, in lines 8-9 “the butterfly operated signal”, in lines 15-16, “the cumulative scale count value”, and in line 19 “the butterfly operated value” lack antecedent basis.

With respect to claim 20, in line 22, “the result” lacks antecedent basis.

With respect to claim 24, in line 2, “each of the 4 result values ... is added” lacks antecedent basis because independent claim 20 does not recite 4 result values.

Appropriate correction is required.

Allowable Subject Matter

3. Claims 1-24 are allowed.

The following is an examiner’s statement of reasons for allowance:

The prior art does not teach or fairly suggest a scale detection unit for calculating and outputting a scale factor which is a division factor used for controlling a bit value of a butterfly operated signal input from the butterfly operation unit to the input buffer unit at each stage within a predetermined bit limit of the received OFDM signal; a scale count unit for cumulative counting a count coefficient corresponding to the scale factor input from the scale detection unit, and then outputting a result; and a compensation unit for controlling the bit of a signal input from the butterfly operation unit according to values obtained from the scale detection unit and the scale count unit, and then outputting a result, as specified in independent claims 1 and 13.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kozaki et al (US Patent No. 6,240,062 B1) discloses fast fourier transform calculating apparatus and method.

Nawa et al (US Patent No. 6,735,167 B1) discloses orthogonal transform processor.

Kozaki et al (US Patent No. 6,058,409) discloses FFT apparatus.

Keevill et al (US Pub 2003/0142764 A1) discloses single chip VLSI implementation of a digital receiver employing OFDM.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2667

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800
7/7/05